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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
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09/442,416 12/01/99 ICHIGE

A 2185-0382P

EXAMINER

IM52/0529

BIRCH STEWART KOLASCH & BIRCH LLP
P O BOX 747
FALLS CHURCH VA 22040

NAKABANI, D

ART UNIT

PAPER NUMBER

1773

DATE MAILED:

05/29/01

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trad marks

Office Action Summary

Application No.
09/442,416

Applicant(s)

Ichige et al

Examiner

D. S. Nakarani

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE three MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on Dec 1, 1999
- 2a) ☐ This action is **FINAL**.
- 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above, claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-16 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are objected to by the Examiner.
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

- 13) ☒ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

a) ☒ All b) ☐ Some* c) ☐ None of:

1. ☒ Certified copies of the priority documents have been received.

2. ☐ Certified copies of the priority documents have been received in Application No. _____.

3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

*See the attached detailed Office action for a list of the certified copies not received.

- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

15) ☒ Notice of References Cited (PTO-892)

16) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

17) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s). 4

18) ☐ Interview Summary (PTO-413) Paper No(s). _____

19) ☐ Notice of Informal Patent Application (PTO-152)

20) ☐ Other: _____

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DETAILED ACTION

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claims 1-16 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. It is well established that uniaxial orientation enhances the physical properties of sheets or films in the direction of orientation and properties in the perpendicular directions are usually far inferior. The relationships between physical properties and molecular orientation of uniaxially oriented products are well understood for both amorphous and semicrystalline polymers. The principal change that occurs upon orientation is the preferential alignment of the molecular chains in the direction of the orientation in the amorphous and the crystalline phases of semicrystalline polymers. The orientation allows the strong covalent bonds along the chain backbone to carry loads in the orientation direction. The perpendicular to the orientation direction, the weaker intermolecular van der Waals forces predominate between the molecular chains giving a much lower load carrying capability (see Encyclopedia of Polymer Science and Engineering, Vol. 7, pages 96-98). This means that tensile strength of the uniaxially oriented polymer sheet or film increases in the direction of the orientation and tearing strength decreases

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in the direction of the orientation since tearing requires to break van der Waals forces (i.e. bonding) between the molecular chains. On the other hand tensile strength of the uniaxially oriented polymer sheet or film decreases in the direction perpendicular to the orientation direction due to van der Waals forces between the molecular chains and the tearing strength increases in the direction perpendicular to the orientation direction since tearing in the direction perpendicular to the orientation direction requires to break covalent bonds along the chain backbone. As evidence, see U.S. Patent 5,670,225 to Yamanaka et al, comparative Example 3 in Table 1 showing Elmendorf tear strength 25g in the stretching direction (i.e. machine direction or i.e. orientation direction) and 300g in the perpendicular direction. The disclosed invention is a multilayer olefin film which is uniaxially oriented in a machine direction and has a tear strength in machine direction higher than the tear strength in a transverse direction which is opposite to what is well established in the art. The disclosure as filed fail to disclose how to make an uniaxially oriented film which has higher tear strength in the direction of the orientation and lower tear strength in the transverse direction. The working Examples of the disclosure shows commonly known method of making uniaxially oriented olefin film. In absence of disclosure which results in claimed properties which are opposite to well established knowledge in the art, a person of ordinary skill in the art would be unable to practice the claimed invention.

3. Claims 1-16 would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112, first paragraph, set forth in this Office action.

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4. Receipt of Information Disclosure Statement filed December 1, 1999 is acknowledged and has been made of record..

The letter filed December 1, 1999 pertaining to co-pending U.S. Application Serial No. 09/320,677 filed May 27, 1999, has been received U.S. Application Serial No. 09/320,677 has been reviewed. However, since it is unpublished document and due to its secrecy nature has not been made of record.

5. Claims are allowable over the closest prior art, Yamanaka et al (U.S. Patent 5,670,225) while Yamanaka et al teach a multilayer uniaxially oriented olefin film having tear strength lower in the direction of stretching (machine direction) and higher in the transverse direction does not teach or suggest higher tear strength in the direction of stretching compared to the tear strength in the transverse direction. Further, Yamamaka et al do not teach or suggest a tear strength in machine direction (i.e. in the direction of stretching) not less than about 30 kg/cm.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to D.S. Nakarani whose telephone number is (703) 308-2413. The examiner can normally be reached on Tuesday-Friday from 7:00 a.m. to 5:30 p.m..

6. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. Paul J. Thibodeau , can be reached on (703) 308-2367. The fax phone number for the organization where this application or proceeding is assigned is (703) 305-3599.

Application/Control Number: 09/442,416

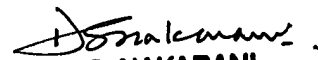
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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661

D.S. Nakarani/dh

May 21, 2001.


D. S. NAKARANI
PRIMARY EXAMINER